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SENNIGER POWERS LLP 100 NORTH BROADWAY 17TH FLOOR ST LOUIS, MO 63102			FRAZIER, BARBARA S	
			ART UNIT	PAPER NUMBER
			1611	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspatents@senniger.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/728,654	<b>Applicant(s)</b> SEITZ ET AL.	
	<b>Examiner</b> BARBARA FRAZIER	<b>Art Unit</b> 1611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) 6-8, 13-16, 37-39 and 44-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9-12, 17-36, 40-43 and 48-69 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/31/08, 5/15/08</u>  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of Claims***

1. Claims 1-69 are pending in this application. Cancellation of claims 70-93 is acknowledged.
2. Claims 6-8, 13-16, 37-39, and 44-47 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 1/10/08.
3. Claims 1-5, 9-12, 17-36, 40-43, and 48-69 are examined.
4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Inventorship***

5. In view of the papers filed 8/15/08, it has been found that this nonprovisional application, as filed, through error and without deceptive intent, improperly set forth the inventorship, and accordingly, this application has been corrected in compliance with 37 CFR 1.48(a). The inventorship of this application has been changed from the original naming of inventors of Michael E. Seitz and Ronald J. Brinker as joint inventors, to Michael E. Seitz, Ronald J. Brinker, Yiwei Ding and Jawed Asrar as joint inventors.

***Specification***

6. The objection to the specification is withdrawn in view of Applicant's amendments to the specification.

***Claim Objections***

7. The objection to claim 32 is withdrawn in view of Applicant's amendment to the claim.

***Claim Rejections - 35 USC § 112***

8. The rejections of claims 23 and 54 under 35 USC 112, second paragraph are withdrawn in view of Applicant's arguments that the specification defines "pesticides" to include "herbicide" and "safener".
9. The rejection of claims 26 and 57 under 35 USC 112, second paragraph is withdrawn in view of Applicant's amendments to the claims.
10. The rejection of claim 31 under 35 USC 112, second paragraph is withdrawn in view of Applicant's amendment to the claim.
11. The rejection of claim 63 under 35 USC 112, second paragraph is withdrawn in view of Applicant's amendment to the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1-5, 9-12, 17-23, 27-36, 40-43, 48-54, and 58-69 are rejected under 35 U.S.C. 102(e) as being anticipated by Asrar et al (US Patent 6,992,047, hereinafter "Asrar '047").**

The claimed invention is drawn to a pesticidal material as described in claim 1:

1. A pesticidal material comprising a substantially water-immiscible core material, the core material comprising a pesticide and being encapsulated in a shell having a predetermined permeability with respect to the core material, wherein the shell is formed by an interfacial polymerization of a polyisocyanate with other monomers in an encapsulation shell-forming polymerization system, said other monomers comprising a principal amine and an auxiliary amine.

and an agricultural formulation comprising a dispersion of microcapsules (which comprise the pesticidal material) in an aqueous phase (see claim 32).

Asrar '047 teach pesticidal materials comprising microcapsules formed by the interfacial polymerization of a polyisocyanate with one or more polyamines (claims 1 and 19-20); the microcapsule shell formed by the interfacial polymerization of the aliphatic polyisocyanate Desmodur 3200 (triisocyanate based on hexamethylene diisocyanate), triethylene tetramine, and trimethylolpropane tris[poly(propylene glycol)amine terminated] ether (Jeffamine T-403, i.e., polyoxypropylene triamine) is exemplified (see Examples 1-9 and 15-17). The microcapsule is further used in an aqueous formulation (see Example 18). Asrar '047 also teach that the core material comprises a first agricultural active having low water solubility (claim 1). The resultant

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microcapsule of Asrar '047 would have a predetermined permeability, given that the microcapsule shell of Asrar '047 is the same as the shell of the claimed invention. Therefore, the invention of Asrar '047 anticipates the claimed invention.

With respect to claims 2 and 33, the polyamines of Asrar '047 described above are not hydrolysis products of the polyisocyanate.

With respect to claims 3-5, and 34-36, the properties of predetermined and greater permeabilities would be present in the microcapsule and formulations of Asrar '047, given the fact that the microcapsule shell of Asrar '047 is the same as that of the claimed invention.

With respect to claims 9, 22, 40, and 53, the properties relating to solubility would be present in the microcapsule and formulations of Asrar '047, given the fact that the microcapsule shell of Asrar et al. is the same as that of the claimed invention.

With respect to claims 10-12, 17-18, 41-43, and 48-49, Asrar '047 teach the use of Jeffamine T-403 (i.e., polyoxypropylene triamine) with triethylene tetramine as the polyamines used (see Examples 1-9 and 15-17).

With respect to claims 19, 20, 50, and 51, Asrar '047 teach that Desmodur N3200, an aliphatic polyisocyanate (triisocyanate) based on hexamethylene diisocyanate, is used as the polyisocyanate (see Example 1 and following Examples). Applicant's specification teaches that Desmodur N3200 is a biuret-containing adduct of 1,6-hexamethylene diisocyanate (see page 18, lines 25-27 of Applicant's specification).

With respect to claims 21 and 52, the property of being "substantially non-porous" would be present in the shell of Asrar '047, given the fact that the shell of Asrar et al. is the same as the shell of the claimed invention.

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With respect to claims 23 and 54, Asrar '047 teach that the agricultural active (i.e., core material) has "fungicidal and other applications" (col. 3, lines 40-53).

With respect to claims 27-29 and 58-60, Asrar '047 teach that an organic solvent may be present in the core material, which would act as a diluent; the solvent may be chosen from different amounts, boiling points, and/or classes of compounds (see col. 20, line 57 - col. 21, line 46). The properties of adjusted solubility would be present in the microcapsule and formulation depending on the choice of solvent from the list disclosed in Asrar '047.

With respect to claims 30 and 61, a weight ratio of shell: agricultural active from about 15:100 to about 30:100 is "particularly useful" (col. 27, lines 56-65). This amount is encompassed by Applicant's amount of less than about 33%.

With respect to claim 63, the property of the viscosity of the dispersion of Asrar '047 would necessarily be encompassed by the viscosity ranges of the formulation of the claimed invention, given the fact that the size and weight of the shell of Asrar '047 are encompassed within the size and weight ranges of the claimed invention.

With respect to claim 64, Asrar '047 teach that the "particularly useful form" of the microcapsule includes a microcapsule having an average size of from about 2 microns to about 8 microns (col. 27, lines 59-62).

With respect to claims 31, 62, 65, and 68, Asrar '047 teach the microcapsule may have a weight ratio of shell:core material from about 15:100 to about 30:100, and an average size of from about 2 microns to about 8 microns (col. 27, lines 57-62). Based on these measurements, the microcapsule would have a mass to volume ratio and a volumetric diameter distribution within the measurements of the claimed invention.

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With respect to claim 66, Asrar '047 teach that 0.2 ml of microcapsules is placed in 0.8 ml of water to form an agricultural formulation (see Example 18). Based on these amounts, the formulation would comprise less than about 65 weight percent microcapsules, according to the claimed invention.

With respect to claim 67, Asrar '047 teach that a compound which acts a melting point depressant is present (col. 23, lines 46-48); this compound would therefore be an “antifreeze agent”.

With respect to claim 69, Asrar '047 teach that the microcapsules may be applied to wheat seed in the fall and provide protection throughout the spring, thus saving at least one and perhaps two conventional field applications of a pesticide (col. 9, lines 13-28 and Example 18).

### ***Response to Arguments***

12. Applicant's arguments filed 8/15/08 have been fully considered but they are not persuasive.

Applicants have filed a Declaration under Rule 1.132 declaring that the subject matter of Asrar '047 directed to the use of isocyanate monomers and one or more polyamines in the preparation of the polymer shell, as well as Examples describing useful materials, is all based on the work of all four inventors of the instant application.

The declaration is not persuasive for overcoming the rejection because said subject matter of Asrar '047, directed to the use of isocyanate monomers and one or more polyamines in the preparation of the polymer shell, is disclosed in the claims of Asrar '047 (e.g., see claims 1, 19, and 20 of Asrar '047). Additionally or alternatively, the inventorship of Asrar et al is directed only Jawed Asrar and Yiwei Ding, and Applicants have not corrected the inventorship in the US



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patent. The Declaration is defective since Applicants state that the all four inventors invented the claimed invention and all relevant portions of the US patent; thus applicants need to correct the inventorship of the US patent.

**13. Claims 1-5, 9-12, 17-23, 27-36, 40-43, 48-54, and 58-69 are rejected under 35 U.S.C. 102(a) as being anticipated by Asrar et al (WO 2002/082901).**

The disclosure of Asrar et al (WO 2002/082901, hereinafter “Asrar ‘901”) is the same as the disclosure of Asrar ‘047. Therefore, the reasons for rejection based on Asrar '901 are the same as those cited for Asrar '047, except for the fact that the rejection of the claims as being anticipated by Asrar '901 is under 35 USC 102(a) instead of 35 USC 102(e), based on the publication date of Asrar ‘901.

***Response to Arguments***

14. Applicant's arguments filed 8/15/08 have been fully considered but they are not persuasive.

Applicants argue that Asrar ‘901 is not 102(a) prior art because the disclosure of Asrar ‘901 is the same as the disclosure of Asrar ‘047, and because said portions of the disclosure (specifically, page 42, line 14 to page 48, line 15 and Examples) describe the work of Michael Seitz, Ronald Brinker, Yiwei Ding, and Jawed Asrar, which is the inventive entity in the present case.

This argument is not persuasive. Applicants have not presented any objective or declarative evidence in order to overcome the rejection of the claims by Asrar ‘901 under 35 USC 102(a).

***Claim Rejections - 35 USC § 103***

**15. Claims 24, 25, 55, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asrar et al (US Patent 6,992,047).**

The claimed invention and the invention of Asrar '047 are recited above (see paragraph 18).

With respect to claims 24, 25, 55, and 56, Asrar '047 differ from the claimed invention because it does not specifically teach the acetanilide alachlor as the first agricultural active in the core material.

However, Asrar '047 does teach that chloroacetamides, such as alachlor, may be used with the first agricultural active in the core material of the microcapsule (see col. 22, lines 59-60).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use form a microcapsule comprising alachlor in the core material and an agricultural formulation therewith, with a reasonable expectation of success.

One skilled in the art would have been motivated to select alachlor from the list of known agricultural actives found in Asrar '047 in order to form the pesticidal material and corresponding agricultural formulation of the claimed invention comprising alachlor in the core material, with a reasonable expectation of success.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C.

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102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention “by another”; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

### ***Response to Arguments***

16. Applicant's arguments filed 8/15/08 have been fully considered but they are not persuasive.

Applicants have submitted a statement that the present application, Application No. 10/728,654, and Patent No. 6,992,047 to Asrar et al. were, at the time of invention of Application No. 10/728,654, owned by or subject to an obligation of assignment to Monsanto Technology, LLC. Applicants further submit that, in view of the above, Asrar et al. is disqualified as a reference under 35 U.S.C. §103(c) (i), thereby obviating the rejection of claims 24, 25, 55 and 56 as obvious over Asrar et al.

This argument is not persuasive because Applicants have not included the precise language as required by MPEP 706.02(l), specifically, that Application No. 10/728,654, and

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Patent No. 6,992,047 to Asrar et al. were, **at the time the invention was made**, owned by or subject to an obligation of assignment to Monsanto Technology, LLC.

**17. Claims 1-5, 9-12, 17-36, 40-43, and 48-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seitz et al (US Patent 5,925,595).**

The claimed invention is recited above (see paragraph 18).

Seitz et al. teaches a microencapsulated composition comprising a capsule wall that comprises the polymerization product of a triisocyanate, an aliphatic diisocyanate, and a polyamine, and an internal phase that comprises a first core chemical and a second core chemical (see claim 36). The triisocyanate Desmodur N3200 (the trifunctional biuret adduct of hexamethylene diisocyanate), the polyamine triethylene tetramine, and the core chemical alachlor are exemplified (see Examples 1-4). Seitz et al also teach that varying the ratios of isocyanates used in the formation of the shell wall will lead to optimizing properties of the shell wall, such as permeability (for example, see col. 4, line 64 - col. 5, line 7). Seitz et al also teach that different polyamines are suitable in the polymerized shell wall product (col. 8, lines 1-8). Seitz et al further teach that multifunctional isocyanates (i.e., di- and triisocyanates) are used in the polymerized shell wall product (for example, see columns 3 and 7).

Seitz et al do not specifically teach that an auxiliary amine (such as polyoxypropylene triamine) is used with the polyisocyanates and triethylene tetramine to form the shell.

However, Seitz et al. do teach that polyoxypropylene triamine is "expected to function adequately" in the formation of the microencapsulated composition (col. 8, lines 1-5).

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It would have been obvious to a person having ordinary skill in the art at the time the invention was made to form the microencapsulated composition by the polymerization of polyisocyanate, triethylene tetramine, and polyoxypropylene triamine according to the claimed invention, with a reasonable expectation of success.

It is prima facie obvious to combine two compositions, each of which is taught by the prior art, to be useful for the same purpose, in order to form a third composition to be used for the very same purpose. See MPEP 2144.06. Since both triethylene tetramine and polyoxypropylene triamine would be expected to “function adequately” in the composition of Seitz et al., it would have been prima facie obvious to use both polyamines in the polymerization with the polyisocyanates in order to form the microencapsulated composition, with a reasonable expectation of success.

Additionally, since Seitz et al teach that one of the polyurea shell wall components (i.e., the isocyanate) may be varied by using more than one isocyanate in specified ratios in order to improve the permeability of the shell wall, it would be obvious to one skilled in the art to also try varying the other component of the polyurea shell wall (i.e., the polyamine) by using more than one amine in specified ratios in order to improve the permeability of the shell wall. One skilled in the art would reasonably expect success from the use of more than one amine in forming the shell wall because multifunctional isocyanates are used in forming the shell wall, as taught by Seitz et al, and therefore would reasonably accommodate more than one amine.

With respect to the agricultural formulation comprising a dispersion of microcapsules in an aqueous phase (claims 32-36, 40-43, and 48-69), Seitz et al. teach that an aqueous liquid is added to the combination of isocyanate and core chemical to form an oil-in-water emulsion

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before reacting the emulsion with a polyamine to form microcapsules which encapsulate the water-immiscible core chemical (see abstract). Therefore, the resultant microcapsules are dispersed in an aqueous liquid.

With respect to claims 2 and 33, the polyamines of Seitz et al. described above are not hydrolysis products of the polyisocyanate.

With respect to claims 3-5 and 34-36, the properties of predetermined and greater permeabilities would be present in the microcapsule and formulations of Seitz et al., given the fact that the microcapsule shell of Seitz et al. can be formed from the same components as those taught in the claimed invention.

With respect to claims 9, 22, 40, and 53, the properties relating to solubility would be present in the microcapsule and formulations of Seitz et al., given the fact that the microcapsule shell of Seitz et al. can be formed from the same components as those taught in the claimed invention.

With respect to claims 10-12, 17-18, 41-43, and 48-49, Seitz et al. teach that both triethylene tetramine and polyoxypropylene triamine are "expected to function adequately" in the microcapsule composition (col. 8, lines 1-5).

With respect to claims 19, 20, 50, and 51, Seitz et al. teach the use of Desmodur N3200 (the trifunctional biuret adduct of hexamethylene diisocyanate) as the triisocyanate (e.g., see Examples 1-4).

With respect to claims 21 and 52, the property of being "substantially non-porous" would be present in the shell of Seitz et al., given the fact that the microcapsule shell of Seitz et al. can be formed from the same components as those taught in the claimed invention.

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With respect to claims 23-25 and 54-56, Seitz et al. teach that herbicides, such as the acetanilide alachlor, are particularly preferred core materials (col. 8, lines 20-22).

With respect to claims 26 and 57, Seitz et al. teach that “in one preferred embodiment, the core contains both a herbicide and a safener” (col. 8, lines 26-27).

With respect to claims 27-29 and 58-60, Seitz et al. teach that the core chemical can optionally have combined with it a hydrophobic diluent (col. 3, lines 53-54). Seitz et al. further teach that the chemical nature and the amount of core diluent used determines its effect on the release, stating that a poor solvent will decrease the release, and a good solvent will accelerate the release (col. 5, lines 29-37). Therefore, the addition of the diluent may affect the solubility parameters of the core material as disclosed in the claimed invention.

With respect to claims 30 and 61, Seitz et al. teach a wall to core ratio of 8% (e.g., see Examples 13 and 14); this is encompassed by Applicant's shell to core ratio of less than 33%.

With respect to claims 31, 62, 65, and 68, Seitz et al. teach a wall to core ratio of 8%, and an average size of 3 microns (Examples 13 and 14). Based on these measurements, the microcapsule would have a mass to volume ratio and a volumetric diameter distribution within the measurements of the claimed invention.

With respect to claim 63, the property of the viscosity of the dispersion of Seitz et al. would necessarily be encompassed by the viscosity ranges of the formulation of the claimed invention, given the fact that the size and weight of the shell and core of Seitz et al. are encompassed within the size and weight ranges of the claimed invention.

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With respect to claim 64, Seitz et al. teach that the capsules have a particle size ranging from 2.2 to 4.5 microns (see Examples); this is encompassed by Applicant's range of 2 to 8 microns.

With respect to claim 66, Seitz et al. teach in Example 1 that the weight of the core and shell is 408.9 grams, and the total weight is 732.7 grams; therefore the weight percent of the capsule is 56% (see Example 1); this is encompassed by Applicant's range of less than 65 weight percent microcapsules.

With respect to claim 67, Seitz et al. teach that a preservative may be added to the formulation (col. 9, lines 29-30).

With respect to claim 69, Seitz et al. applying the formulation to agricultural fields of rox orange sorghum and barnyardgrass (e.g., see Example 15, column 13) and Dekalb corn hybrids (e.g., see Example 21, column 21).

### ***Response to Arguments***

18. Applicant's arguments filed 8/15/08 have been fully considered but they are not persuasive.

Applicants, through a lengthy discussion, argue that Seitz et al do not provide the ordinarily skilled person with a basis to prepare polyureas using more than one amine, and additionally did not discuss any of the factors or properties of the amines that would have provided the ordinarily skilled person with a reason for preparing polyureas from at least two amines.

This argument is not persuasive.



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In determining obviousness under 35 USC 103, exemplary rationales that may support a conclusion of obviousness include use of known technique to improve similar products in the same way, as well as applying a known technique to a known product ready for improvement to yield predictable results. See MPEP 2141.

Seitz et al teach that varying the ratios of isocyanates used in the formation of the shell wall will lead to optimizing properties of the shell wall, such as permeability (for example, see col. 4, line 64 - col. 5, line 7). Seitz et al also teach that different polyamines are suitable in the polymerized shell wall product (col. 8, lines 1-8). Seitz et al further teach that multifunctional isocyanates (i.e., di- and triisocyanates) are used in the polymerized shell wall product (for example, see columns 3 and 7).

Since Seitz et al teach that one of the polyurea shell wall components (i.e., the isocyanate) may be varied by using more than one isocyanate in specified ratios in order to improve the permeability of the shell wall, it would be obvious to one skilled in the art to also try varying the other component of the polyurea shell wall (i.e., the polyamine) by using more than one amine in specified ratios in order to improve the permeability of the shell wall. One skilled in the art would reasonably expect success from the use of more than one amine in forming the shell wall because multifunctional isocyanates are used in forming the shell wall, as taught by Seitz et al, and therefore would reasonably accommodate more than one amine. In response to Applicant's arguments regarding other factors that are improved through the use of more than one amine, Examiner notes that the claims are drawn simply to pesticidal materials, not methods of improvement.

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Therefore, it is the Examiner's opinion that the claims are prima facie obvious, and Applicants have not submitted any evidence of nonobviousness in order to overcome the rejection.

**19. Claims 24, 25, 55, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asrar et al (WO 2002/082901, "Asrar '901").**

The claimed invention and the invention of Asrar et al. are recited above (see paragraph 18).

With respect to claims 24, 25, 55, and 56, Asrar et al. differ from the claimed invention because it does not specifically teach the acetanilide alachlor as the first agricultural active in the core material.

However, Asrar et al. does teach that chloroacetamides, such as alachlor, may be used with the first agricultural active in the core material of the microcapsule (see page 40, lines 15-16).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use form a microcapsule comprising alachlor in the core material and an agricultural formulation therewith, with a reasonable expectation of success.

One skilled in the art would have been motivated to select alachlor from the list of known agricultural actives found in Asrar et al. in order to form the pesticidal material and corresponding agricultural formulation of the claimed invention comprising alachlor in the core material, with a reasonable expectation of success.

***Response to Arguments***

20. Applicant's arguments filed 8/15/08 have been fully considered but they are not persuasive.

Applicants argue that Asrar '901 is not 102(a) prior art because the disclosure of Asrar '901 is the same as the disclosure of Asrar '047, and because said portions of the disclosure (specifically, page 42, line 14 to page 48, line 15 and Examples) describe the work of Michael Seitz, Ronald Brinker, Yiwei Ding, and Jawed Asrar, which is the inventive entity in the present case.

This argument is not persuasive. Applicants have not presented any objective or declarative evidence in order to remove Asrar '901 as 102(a) prior art.

***Double Patenting***

21. Claims 1-5, 9-12, 17-25, 27-36, 40-43, and 48-69 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 129 and 131-153 of copending Application No. 11/113,857. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are drawn to the same subject matter and composition components.

The claimed invention is drawn to a pesticidal material according to claim 1:

1. (Original) A pesticidal material comprising a substantially water-immiscible core material, the core material comprising a pesticide and being encapsulated in a shell having a predetermined permeability with respect to the core material, wherein the shell is formed by an interracial polymerization of a polyisocyanate with other monomers in an encapsulation shell-forming polymerization system, said other monomers comprising a principal amine and an auxiliary amine.

and an agricultural formulation according to claim 32:

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32. (Currently Amended) An agricultural formulation comprising a dispersion of microcapsules in an aqueous phase, said microcapsules comprising a substantially water-immiscible core material, the core material comprising a pesticide and being encapsulated in a shell having a predetermined permeability with respect to the core material, wherein the shell is formed by an interracial polymerization of a polyisocyanate with other monomers in an encapsulation shell-forming polymerization system, said other monomers comprising a principal amine and an auxiliary amine.

In the elected species of the claimed invention, the pesticide is alachlor, the polyisocyanate is the biuret-containing adduct of hexamethylene-1,6-diisocyanate, and the principal amine and auxiliary amine are triethylenetetramine and polyoxypropylenetriamine, respectively.

Copending application '857 teaches an agriculturally active microcapsule comprising an organic core material encapsulated in a shell having a pre-selected release rate, wherein the shell is formed by interfacial polymerization of a polyisocyanate with a first and second polyamine.

The '857 application differs from the instant application because it does not specifically state that the shell has a predetermined permeability (see claim 1).

However, the '857 application does teach that the ratio of the first and second polyamine is selected and controlled to release the agricultural active from the microcapsule at the pre-selected rate (see claim 129), and therefore would impart a predetermined permeability to the microcapsules and the corresponding agricultural formulation.

With respect to the elected species, the '857 application teaches that the core (agriculturally active) material is alachlor (claims 140 and 152), the first and second polyamines are chosen among triethylenetetramine and trimethylolpropane tris[poly(propylene glycol) amine terminated] ether (i.e., polyoxypropylene triamine) (claim 145) and the polyisocyanate is an "aliphatic polyisocyanate" (claim 143). The definition of "aliphatic polyisocyanate" in the '857

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application includes Desmodur N3200 (page 46, paragraph 292), which is Applicant's elected polyisocyanate (see page 18, line 27 of the instant specification).

With respect to the properties of being non-porous (claims 21 and 52), the microcapsule of the '857 application is non-porous (claim 138).

With respect to the dependent limitations of permeability, solubility, weight ratios, and size, said properties would be present in the microcapsule and formulations of the '857 application based on the weight ratios and sizes listed in the claims of the '857 application (e.g., see claims 135-137), as well as the fact that the microcapsule of the '857 application comprises the same core material and shell as the pesticidal material of the instant application, for reasons stated above.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Response to Arguments***

22. Applicant's arguments filed 8/15/08 have been fully considered but they are not persuasive.

Applicants state that, unless and until the co-pending application matures in a patent, the appropriateness of the provisional obviousness-type double patenting rejection cannot be ascertained. Applicants also state that they will consider filing a terminal disclaimer to obviate this rejection when the application is otherwise in condition for allowance.

Applicant's consideration of filing a terminal disclaimer is noted; however, since no such terminal disclaimer has yet been filed and Applicants have not addressed any of the merits of the rejection, the rejection stands.

***Conclusion***

No claims are allowed at this time.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BARBARA FRAZIER whose telephone number is (571)270-3496. The examiner can normally be reached on Monday-Thursday 9am-4pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sharmila Landau can be reached on (571)272-0614. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BSF

/Sharmila Gollamudi Landau/  
Supervisory Patent Examiner, Art Unit 1611